



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 8

1595 Wynkoop Street
Denver, CO 80202-1129
Phone 800-227-8917
<http://www.epa.gov/region08>

JUL 17 2015

Ref: 8ENF-AT

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Pete Hagist, Senior Vice President, Planning
Whiting Petroleum Corporation
1700 Broadway, Suite 2300
Denver, Colorado 80290

Re: Section 114(a) Information Request for Whiting Petroleum Corporation's Oil and Natural Gas Well Production Facilities in North Dakota

Dear Mr. Hagist:

The United States Environmental Protection Agency (EPA) hereby requires Whiting Petroleum Corporation (Whiting) to provide certain information to determine the Clean Air Act (CAA or the Act) compliance status of its oil and natural gas production facilities located in North Dakota.

Pursuant to section 114(a) of the CAA, 42 U.S.C. § 7414(a), the Administrator of the EPA is authorized to require any person who owns or operates an emissions source to establish and maintain records, make reports, sample emissions (in accordance with the procedures and methods that the Administrator shall prescribe) and provide such other information as she may reasonably require for the purposes of determining whether such person is in violation of any provision of the CAA. This authority has been delegated to the undersigned official. For the EPA to determine whether a violation of the CAA has occurred, you are hereby required, pursuant to section 114(a) of the CAA, to provide responses to Requests 1-8 herein. Accordingly, within thirty (30) calendar days from receipt of this request, you must respond to Requests 1-2. Within ninety (90) calendar days from receipt of this request, you must respond to Requests 3-8. Instructions and definitions are provided in Enclosure 1 and the information being requested is contained within Enclosure 2. For ease of organization, the EPA is providing an electronic copy of an Excel spreadsheet (Enclosure 5) for the responses to Requests 3-8.

You are required to attach a properly executed Statement of Certification (Enclosure 3) to your response to this request. The statement must be signed and dated. You are under an obligation to preserve all documents requested in this letter until you receive further instructions from the EPA.

Failure to provide the required information is a violation of the Act and may result in one or more of the following actions: 1) issuance of an administrative penalty order pursuant to section 113(d) of the Act, 42 U.S.C. § 7413(d); 2) issuance of an order requiring compliance with this request; 3) the initiation of a civil action pursuant to section 113(b) of the Act, 42 U.S.C. § 7413(b); and/or 4) any other action

authorized under the Act. In addition, knowingly providing false information in response to this information request may be actionable under section 113(c) of the Act, 42 U.S.C. § 7413(c), and 18 U.S.C. §§ 1001 and 1341. The information you provide may be used by the EPA in administrative, civil, and criminal proceedings.

Under section 114(c) of the Act, 42 U.S.C. § 7414(c), and pursuant to regulations at 40 C.F.R. Part 2, including 40 C.F.R. § 2.301, you are entitled to claim as confidential any information you provide to the EPA which involves trade secrets and is regarded as confidential business information by you. For such information, you may request that the EPA treat such information as confidential. Any such claim for confidentiality must conform to the requirements of 40 C.F.R. § 2.203(b). Note that emission data cannot be claimed as confidential under section 114(c). For detailed instructions, please see Enclosure 4 to this letter. Information you supply will be treated as confidential business information to the degree determined to be appropriate according to the regulations. If you fail to furnish a business confidentiality claim with your response to this information request, the EPA will construe your failure as a waiver of that claim, and the information may be made available to the public without further notice to you.

YOU MUST SUBMIT ALL RESPONSIVE INFORMATION: *Whether or not you make a claim of confidentiality.*

Please submit your response to this request to:

U.S. Environmental Protection Agency, Region 8
Technical Enforcement Program
Office of Enforcement, Compliance and Environmental Justice
1595 Wynkoop Street
Denver, Colorado 80202-1129
Attention: Alexis North

If you have any questions regarding this Information Request, please contact Alexis North, at 303-312-7005, or your counsel may contact David Rochlin, at 303-312-6892.

Sincerely,



Suzanne J. Bohan
Assistant Regional Administrator
Office of Enforcement, Compliance and
Environmental Justice

Enclosures

Instructions and Definitions
Information Requested
Statement of Certification
Confidential Business Information
Workbook for Responses to Requests 3-8

cc: The Honorable Mark Fox, Chairman, MHA Nation
Kari Mossett, Executive Assistant, MHA Nation
Tex Lone Bear, Director, Natural Resource Division, MHA Nation
Frankie Lee, Natural Resource Division, MHA Nation
Jack Craig, Regulatory Affairs Officer, MHA Energy Division
Blaine Dixon, Compliance Manager, MHA Energy Division
Edmund Baker, Environmental Director, MHA Nation
Terry O'Clair, North Dakota Department of Health
Jim Semerad, North Dakota Department of Health
Alfreda Mitre, EPA-Region 8
David Rochlin, EPA-Region 8
Scott Patefield, EPA-Region 8
Alexis North, EPA-Region 8
Sam Vance, EPA-Region 8
(w/enlc. to ea.)

ENCLOSURE 1:

A. INSTRUCTIONS

1. Provide a separate narrative response to each request and subpart set forth in the Information Request. If Whiting has no responsive information or documents pertaining to a particular request, submit an affirmative statement and explanation.
2. Precede each answer with the number of the request to which it corresponds and at the end of each answer identify the person(s) (including name, title, and a description of job duties) that provided information that was used or considered in responding to that request, as well as each person (including name, title, and a description of job duties) who was consulted in the preparation of that response.
3. Indicate on each document produced in response to this Information Request, or in some other reasonable manner, the number of the request to which it corresponds. If a document is responsive to more than one request, this must be so indicated and only one copy of the document needs to be provided.
4. The EPA is providing an Excel workbook as Enclosure 5 for ease of organization of responses to Requests 3-8. Please populate the workbook with your responses to those Requests in accordance with all instructions here and therein, and in the units noted. Except for the information specifically requested to be in an Excel spreadsheet format, Whiting may choose to either submit documents in .pdf format or submit documents as hard copy documents. Electronic submissions are preferred to save paper and expenses.
5. When a response is provided in the form of a number, specify the units of measure of the number in a precise manner and the basis for the number provided (e.g., estimated, measured or engineering judgment).
6. Where documents or information necessary for a response are neither in your possession nor available to you, indicate in your response why such documents or information are not available or in your possession and identify any source that either possesses or is likely to possess such documents or information.

B. DEFINITIONS

All terms used in this information request will have their ordinary meaning unless such terms are defined in the Act, 42 U.S.C. § 7401 *et seq.*; 40 C.F.R. Part 49, Subpart K; 40 C.F.R. Part 60, Subpart OOOO; and/or other CAA implementing regulations.

Bakken Pool means Oil produced from the Bakken, Three Forks, and Sanish Formations.

Control device or its plural means the air pollution control equipment used to achieve VOC emission reductions, for example, enclosed flare, combustor, combustion device, vapor recovery unit, etc.

Document and writing and the plural forms thereof means all written, recorded or graphic matters, however produced or reproduced, of every kind and description, pertaining in any way to the subject matter of this action. The terms "document" and "writing" shall include, but are not limited to: any

receipts; invoices; shipping records; purchase orders; purchase records; books; pamphlets; periodicals; memoranda (including those of telephone or oral conversations); contracts; correspondence; agreements; applications; financial records; security instruments; disbursements; checks; bank statements; time records; accounting or financial records; notes; diaries; logs; facsimiles (faxes); telegrams or cables prepared, drafted, received or sent; electronic mail (emails), whether drafted, received or sent; tapes; transcripts; recordings; minutes and notes of meetings; directives; work papers; charts; drawings; prints; flow sheets; photographs; infrared camera recordings; film; computer printouts; x-ray photographs; advertisements; catalogs; data; sampling reports, plans, protocols, reports, analyses; or any handwritten, recorded, transcribed punched, taped, filmed or graphic matter, however produced or reproduced, in Whiting's possession, custody or control or to which Whiting has or has had access.

Enclosed combustor means a thermal oxidation system with an enclosed combustion chamber that maintains a limited constant temperature by controlling fuel and combustion air.

Flash emissions means entrained natural gas vapors or other emissions that are released from hydrocarbon liquids when exposed to temperature increases or pressure drops, for example such as when produced oil is transferred from production vessels to other vessels or to atmospheric storage tanks.

Oil means hydrocarbon liquids.

Oil and natural gas production facility means all of the air pollution emitting units and activities located on or integrally connected to one or more oil and natural gas wells that are used for production operations and storage operations.

Oil and natural gas well means a single well that extracts subsurface reservoir fluids containing a mixture of oil, natural gas, and water.

Owner or operator means any person who owns, leases, operates, controls, or supervises an oil and natural gas production facility.

Person or its plural or any synonym thereof, is intended to and shall embrace and include any individual, partnership, corporation, company, association, government agency (whether federal, state, local or any agency of the government of a foreign country) or any other entity.

Produced natural gas means natural gas that is separated from extracted reservoir fluids during production operations.

Produced oil means oil that is separated from extracted reservoir fluids during production operations.

Produced oil storage tank means a unit that is constructed primarily of non-earthen materials (such as steel, fiberglass, or plastic) which provides structural support and is designed to contain an accumulation of produced oil.

Produced water means water that is separated from extracted reservoir fluids during production operations.

Produced water storage tank means a unit that is constructed primarily of non-earthen materials (such as steel, fiberglass, or plastic) which provides structural support and is designed to contain an accumulation of produced water.

Well completion means the process that allows for the flowback of oil and natural gas from newly drilled wells to expel drilling and reservoir fluids and tests the reservoir flow characteristics, which may vent produced hydrocarbons to the atmosphere via an open pit or tank.

Working, breathing, standing (w/b/s) emissions means those emissions that can occur as vapors are displaced from the produced oil storage tank headspace when the tank is filled (working) or when there are temperature or pressure fluctuations in the produced oil storage tank that volatilize lighter ends (breathing/standing).

You and/or your means Whiting, and all its agents, servants, employees, representatives, investigators, accountants, auditors, attorneys, experts, consultants, contractors and others who are in possession, custody or control (actual or constructive) of relevant information that is otherwise available to you, or may have obtained information for or on behalf of, Whiting.

ENCLOSURE 2:

INFORMATION REQUESTED:

Using the instructions and definitions set forth in Enclosure 1, provide the following information within the time periods specified previously.

1. Please provide the following information:

- a) Provide a list of all of Whiting's oil and natural gas production facilities currently located in North Dakota that are producing from the Bakken Pool. The list shall include, in addition to the information outlined under 1.b, 1.c and 1.d below, the well name, the well location, the date of construction of the associated produced oil and produced water storage tanks and the date of first production from the well. The list should be arranged so that any wells located on the same well pad site are grouped together and identified as such, but the list shall contain well-specific information.
- b) For those wells listed in response to 1.a above, identify whether each well was tied into a gas gathering system and the date that the well was tied into the gas gathering system, as applicable.
- c) For those wells listed in response to 1.a above, identify the type of control device(s) used for controlling emissions of volatile organic compounds (VOC) from produced natural gas and from produced oil storage tanks and produced water storage tanks for the period covering the date of first production to present. Any changes to the type of control device used during the relevant time period must be listed with the corresponding date range for each control device's use. For each control device listed, identify the manufacturer's name, model number and size or maximum design capacity. Also, identify whether each control device was being used as a primary control device or as a backup control device to some other type of available control option. In the case of a backup control devices, identify the corresponding primary control device.
- d) For those wells listed in response to 1.a above, provide the estimated potential to emit for VOCs (in tons per year) from each storage tank (both oil and produced water) and from each interconnected set of tanks (i.e. if storage tanks are part of an interconnected set of tanks, provide the potential to emit for each tank individually and additionally the potential to emit from the interconnected set of tanks). Include all supporting calculations and assumptions used in these calculations. The potential to emit should reflect any emission controls under State and/or Federal regulations.

2. For each of the wells identified in response to 1.b above that are tied into a gas gathering system, provide the total number of hours that produced natural gas was not injected into the gas gathering system for each rolling 12-month period (calendar months) after the date of first production to present. For each of these rolling 12-month periods, identify the type of control device used for controlling emissions of VOC when natural gas was not injected into the gas gathering system, as applicable.

3. Column D (“Oil and Natural Gas Well Name(s)”) of Enclosure 5 includes a list of oil and natural gas wells located on a single well pad. Column B (“EPA-Assigned Tank Vapor Capture System #”) assigns a tank vapor capture system number to the oil and natural gas wells in Enclosure 5 in order to identify oil and natural gas well(s) for which vapors are routed to one tank or multiple tanks manifolded together. Please state whether the oil and natural gas well names associated with the tank vapor capture system numbers identified by the EPA in Enclosure 5 are correct. If they are incorrect (i.e. wells have been shut-in, added, or were never connected to that vapor capture system), please use column E (“Are the oil and natural gas well names correctly associated with their common tank vapor capture system #’s?”) and column F (“If incorrect, provide correct identification and explain”) in the workbook to provide correct identification and explain in accordance with the directions in row 4 (column headers) of the workbook.
4. Separately, for each tank vapor capture system listed in Enclosure 5 (reflecting any corrections made in response to Request 3), affirmatively state in column G (“Did Whiting conduct a design analysis of the tank vapor capture system & control device prior to its construction?”) of the workbook whether or not Whiting conducted, prior to construction of the tank vapor capture system and control device, a design analysis of the tank vapor capture system and control device to determine whether the vapor capture system is adequately designed to handle the peak flow of vapors associated with the movement of oil and produced water to the storage tanks. If your response is yes, please provide the date of that analysis in column H (“If yes, what was the date the analysis was conducted?”) of the workbook. If a pre-construction design analysis has been conducted, please supply all documents supporting the design analysis of each tank vapor capture system and control device in column I (“Supply all documents supporting the design analysis of each tank vapor capture system and control device”) of the workbook and in accordance with the directions in row 4 (column headers).
5. Regardless of whether Whiting conducted a design analysis of the tank vapor capture system and control device prior to construction, as addressed in Request 4, affirmatively state in column J (“Did Whiting conduct a design analysis of the tank vapor capture system & control device since its construction?”) in the workbook whether or not Whiting has ever conducted such an analysis since commencement of construction. If your response is yes, please provide the date of that analysis (or those analyses) in column K (“If yes, what was the date each such analysis was conducted?”) of the workbook. If one or more design analyses have been conducted since commencement of construction of the tank vapor capture system and/or control device, please supply all documents supporting each design analysis of each tank vapor capture system and control device in column L (“Supply all documents supporting each design analysis of each tank vapor capture system and control device”) of the workbook and in accordance with the directions in row 4 (column headers).
6. For those tank capture systems listed in Enclosure 5 (reflecting any corrections made in response to Request 3) for which Whiting has never conducted a design analysis of the tank vapor capture system and control device, conduct a design analysis for each such existing tank vapor capture system(s) and control device(s) and document such analysis in column M (“For tank vapor capture systems for which analyses are not already provided in response to requests 4 & 5, conduct an analysis and supply all input parameters, calculations and supporting documents of the design analysis of each tank vapor capture system and control device”) and in accordance with the directions in row 4 (column headers). Quantify in column N (“Quantify the peak total emission flow due to flash emissions attributed with liquid dump events from the pressurized

vessel upstream of the storage tanks, along with working, breathing and standing emissions”) in the workbook, the peak total emission flow (cubic feet per second) due to flash emissions attributed with liquid dump events from the pressurized vessel(s) upstream of the produced oil and produced water storage tanks, along with working, breathing and standing emissions. Your design analysis shall establish the flow capacity in cubic feet per second of the existing tank vapor capture system(s) and control device(s) and document such capacities in column O (“What is the flow capacity of the existing tank vapor capture system(s) and control device(s)”) in the workbook. You must supply input parameters, calculations and all supporting documentation.

7. For each tank vapor capture system listed in Enclosure 5 (reflecting any corrections made in response to Request 3), provide responses to the information requested below. Please use columns P (“Piping & instrumentation diagram of the process (wellhead(s) to control device)”) through BL (“Provide a narrative description of the servicing Whiting performs on the combustor(s) and the frequency of such”) and in accordance with the directions provided in row 4 (column headers) of the Enclosure 5 workbook to provide the following information:
 - a. Provide a piping & instrumentation diagram of the process (wellhead(s) to control device). If more than one storage tank is present within a tank vapor capture system, describe how produced oil flows between the storage tanks.
 - b. Identify the gas gathering pipeline into which gas enters and the maximum allowable operating pressure (psig) of that pipeline.
 - c. Provide a list of the wells which flow to the initial separator(s) and a narrative description of how the production from those wells is set to flow to the initial separator(s) (e.g. continuous pump, based on time, pressure, other parameter(s), or a combination of these). State whether more than one well can flow to an initial separator concurrent with another well or wells.
 - d. Provide a description, name and tag # ID of the initial separator(s) (e.g. single stage, dual stage, dual coil, HLP, VGR, etc.). For each stage of the initial separator(s) provide the following:
 - i. The maximum operating pressure (psig) and temperature (°F).
 - ii. If more than one stage in the initial separator(s), describe where flash emissions from subsequent stages of initial separator(s) are routed.
 - iii. Whether or not the final separator stage features a device on the liquid outlet line to prevent a vortex from forming during a liquid dump event which could lead to unintentional gas carry through. Provide a narrative description of the device.
 - e. State whether there is an intermediate separation vessel(s) between the initial separator and the storage tank(s). If so, provide:
 - i. The maximum operating pressure (psig) and temperature (°F).
 - ii. Describe where flash emissions from the intermediate separation vessel(s) are routed.

- f. Provide the interior pipe diameter (inches) from the separation vessel immediately upstream of the storage tank(s) for (if the interior pipe diameter is not available, measure the separator outlet exterior pipe diameter, and so note):
 - i. The produced oil outlet pipe.
 - ii. The produced water outlet pipe.
- g. Provide the orifice plate diameter (inches) and make, model, size and trim of the liquid dump valve from the separation vessel immediately upstream of the storage tank(s) for:
 - i. The produced oil outlet pipe.
 - ii. The produced water outlet pipe.
- h. Describe whether the liquids are trucked or piped (specify batch or continuous) offsite from the storage tank(s) from:
 - i. The produced oil tank(s).
 - ii. The produced water tank(s).
- i. State whether the flow of liquids from the separation vessel immediately upstream of the storage tank(s) is continuous or is in intermittent batches.
- j. If the flow of liquids from the separation vessel(s) immediately upstream of the storage tank(s) is in intermittent batches, provide:
 - i. A narrative description of what triggers a liquid dumping event.
 - ii. The maximum produced oil volume (barrels) of the separation vessel immediately upstream of the storage tank.
 - iii. The maximum produced water volume (barrels) of the separation vessel immediately upstream of the storage tank.
 - iv. An estimate of the peak instantaneous produced oil flow rate during a dumping event. This may be estimated using the following method:

$$\text{Instantaneous flow rate} = \frac{\text{average daily production (barrels)}}{(\text{dumping frequency (dumping events per day)} \times \text{duration of a dumping event (hours)})}$$
 The average daily production should be calculated based on well operating hours and produced oil production for July 2014.
 - v. An estimate of the peak instantaneous produced water flow rate during a dumping event. This may be estimated using the following method:

$$\text{Instantaneous flow rate} = \frac{\text{average daily production (barrels)}}{(\text{dumping frequency (dumping events per day)} \times \text{duration of a dumping event (hours)})}$$
 The average daily production should be calculated based on well operating hours and produced water production for July 2014.
- k. If the flow of liquids from the separation vessel(s) immediately upstream of the storage tank(s) is continuous, provide:
 - i. The maximum produced oil pump rate from the separation vessel immediately upstream of the storage tank.

- ii. The maximum produced water pump rate from the separation vessel immediately upstream of the storage tank.
- l. For each tank vapor capture system, provide the number of associated storage tank(s) and their volume (barrels). For this request, associated storage tank means a tank whose vapors are captured and conveyed to a tank vapor capture system.
- m. Describe the storage tank vapor capture system which routes tank vapors to the on-site control device by providing the following:
 - i. Pressure relief settings (psi) on both the thief hatch and the pressure relief valve on any storage tank(s) or tank vapor capture system. Note any changes in pressure relief settings that may have occurred, include the original and modified settings and date(s) when changed.
 - ii. Thief hatch gasket/seal information, including the type of gasket/seal used (e.g. rubber, Viton).
 - iii. Pipe length (feet) from the storage tank(s) to the control device (if the vapor capture system collects vapor from multiple tanks, use the average pipe length for all the storage tanks to the control device).
 - iv. Inner pipe diameter (inches) of the tank vapor capture system from the storage tank(s) to the control device.
 - v. Number of short radius elbows (short radius elbows have a radius equal to the pipe diameter).
 - vi. Number of long radius elbows (long radius elbows have a radius 1.5 times the pipe diameter).
 - vii. Number and type of valves (e.g. gate, check, globe, etc.).
 - viii. If the control device is a combustor, provide the rated pressure loss across the combustor burner assembly as provided by the manufacturer of the combustion device (psi).
 - ix. Describe any low points in the tank vapor collection system piping where liquids could accumulate. Describe the frequency of draining these liquids. Describe the indicator, if any, that notifies the operator that liquids must be drained.
 - x. Set-point pressure (ounces per square inch) and maximum flow capacity (scf/hr) at that set-point of any backpressure valves installed on the vapor collection system.
 - xi. Flame arrestor information including make, model, size and performance curve showing the pressure loss as a function of the flow rate. List the filenames if provided electronically or an Attachment name identifier if hard copy.
 - xii. Provide a narrative description of the operations and maintenance program Whiting employs to ensure emissions are minimized from the storage tank(s), tank vapor capture system(s), including thief hatch(es) and pressure relief valve(s), and the frequency of such.
- n. Identify the type of control device used (e.g. open flare, enclosed combustion device, VRU, etc.). If a combustor is used, provide the following:
 - i. The combustor manufacturer specifications showing the maximum flow rate of tank vapors under which a control efficiency of at least 98% for volatile organic compounds can be achieved (scf/hr).

- ii. The combustor manufacturer recommended maintenance and service requirements.
 - iii. Provide a narrative description of the servicing Whiting performs on the combustor(s) and the frequency of such.
- 8. For each vapor capture system (see column B), provide the following analytical results for at least one well from which produced oil and/or produced water is routed to one tank or multiple tanks manifolded together and controlled with that vapor capture system (see column D). The analytical results shall be recorded in columns BM ("Filename of extended hydrocarbon liquid analysis of a pressurized oil sample from the pressurized vessel immediately upstream of the storage tank(s)") through column BO ("Reid Vapor Pressure of the produced oil in the storage tank(s)") and in accordance with the directions provided in row 4 (column headers) of the Enclosure 5 workbook:
 - a. An extended hydrocarbon liquid analysis of a pressurized oil sample and a pressurized produced water sample from the pressurized vessel immediately upstream of the storage tank(s). Follow the test procedure found in appendix B to the California Air Resource Board's (CARB) Regulation for the Mandatory Reporting of Greenhouse Gas Emissions. The CARB test procedure may be found on page 271 of the document at the following link: <http://www.arb.ca.gov/cc/reporting/ghg-rep/regulation/mrr-2014-unofficial-02042015.pdf>.

If such samples and analyses have been done within the past 12 months, you may provide that data in lieu of analyzing new samples. Include a copy of the lab analysis report showing:

- i. The protocol or test procedure used to collect and analyze the samples.
- ii. Date of each sample collection.
- iii. Start and end times for each sample collection and the duration of time that the samples were collected over (minutes).
- iv. Name of oil and natural gas wells associated with the pressurized vessel sampled.
- v. Description of where, within the oil and natural gas production process, the sample was collected.
- vi. Operating temperature (°F) and pressure (psi) of the vessel at the time the sample was collected.
- vii. The pressure (psi) of the sample at the time it was received by the laboratory.

At least 15 days prior to sampling, please provide a sampling protocol and schedule of sampling locations to Scott Patefield at EPA Region 8, at patefield.scott@epa.gov.

- b. API Gravity and Reid Vapor Pressure (RVP) (psia) of the produced oil in the storage tank(s).

ENCLOSURE 3

STATEMENT OF CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations pursuant to section 113(c)(2) of the Clean Air Act, and 18 U.S.C. §§ 1001 and 1341.

(Signature)

(Printed Name)

(Title)

(Date)

ENCLOSURE 4

Confidential Business Information (CBI) Assertion and Substantiation Requirements

You may assert a business confidentiality claim covering all or part of the information you provide in response to this information request for any business information entitled to confidential treatment under section 114(c) of the Clean Air Act (the Act), 42 U.S.C. § 7414(c), and 40 C.F.R. Part 2, subpart B. Under section 114(c) of the Act, you are entitled to confidential treatment of information that would divulge methods or processes entitled to protection as trade secrets. Under 40 C.F.R. Part 2, subpart B, business confidentiality means “the concept of trade secrecy and other related legal concepts which give (or may give) a business the right to preserve the confidentiality of business information and to limit its use or disclosure by others in order that the business may obtain or retain business advantages it derives from its rights in the information.” 40 C.F.R. § 2.201(e).

Information covered by a claim of business confidentiality will be disclosed by the EPA only to the extent, and by means of the procedures, set forth in section 114(c) of the Act and 40 C.F.R. Part 2, subpart B. If you fail to furnish a business confidentiality claim with your response to this information request, the EPA will construe your failure as a waiver of that claim, and the information may be made available to the public without further notice to you.

To assert a business confidentiality claim, you must place on (or attach to) all information you desire to assert as business confidential either a cover sheet, stamped or typed legend, or other suitable form of notice employing language such as “trade secret,” “proprietary,” or “company confidential” at the time you submit your response to this information request. Allegedly confidential portions of otherwise non-confidential documents should be clearly identified, and may be submitted separately to facilitate identification and handling by the EPA. You should indicate if you desire confidential treatment only until a certain date or until the occurrence of a certain event.

The criteria the EPA will use in determining whether material you claim as business confidential is entitled to confidential treatment are set forth at 40 C.F.R. §§ 2.208 and 2.301. These regulations provide, among other things, that you must satisfactorily show that: (1) the information is within the scope of business confidentiality as defined at 40 C.F.R. § 2.201(e); (2) that you have taken reasonable measures to protect the confidentiality of the information and that you intend to continue to do so; (3) the information is not and has not been reasonably obtainable by legitimate means without your consent; and (4) the disclosure of the information is likely to cause substantial harm to your business’s competitive position. See 40 C.F.R. § 2.208 (a)-(d). Emission data, as defined at 40 C.F.R. § 2.301(a)(2), is expressly not entitled to confidential treatment under 40 C.F.R. Part 2, subpart B. See 42 U.S.C. § 7414(c); 40 C.F.R. § 2.301(e).

If you assert a claim of business confidentiality in connection with information and documents forwarded in response to this request for information, in accordance with 40 C.F.R. § 2.204(e)(4), the EPA is requesting that you answer the following questions with respect to any information or document for which you assert a claim of business confidentiality:

1. What specific portions of the information are alleged to be entitled to confidential treatment? Specify by page, paragraph and sentence when identifying the information subject to your claim.

2. For what period of time do you request that the information be maintained as confidential, e.g., until a certain date, until the occurrence of a specified event, or permanently? If the occurrence of a specific event will eliminate the need for confidentiality, specify that event. Additionally, explain why the information should be protected for the time period you have specified.
3. What measures have you taken to protect the information claimed as confidential from undesired disclosure? Have you disclosed the information to anyone other than a governmental body or someone who is bound by an agreement not to disclose the information further? If so, why should the information still be considered confidential?
4. Is the information contained in any publicly available material such as the Internet, publicly available databases, promotional publications, annual reports or articles? Is there any means by which a member of the public could obtain access to the information? Is the information of a kind that you would customarily not release to the public?
5. Has any governmental body made a determination as to the confidentiality of the information? If so, please attach a copy of the determination.
6. For each category of information claimed as confidential, explain with specificity whether disclosure of the information is likely to result in substantial harm to your competitive position. Explain the specific nature of those harmful effects, why they should be viewed as substantial and the causal relationship between disclosure and such harmful effects. How could your competitors make use of this information to your detriment?
7. Is there any other explanation you deem relevant to the EPA's determination of your business confidentiality claim that is not covered in the preceding questions? If so, you may provide such additional explanation.

Submit your answers to the above questions concurrently with your response to this information request if you have claimed any information as business confidential. See 40 C.F.R. § 2.204(e)(2). Pursuant to 40 C.F.R. § 2.205(b)(2), you may request an extension of this deadline. The EPA will construe your failure to furnish timely comments as a waiver of your confidentiality claim, consistent with 40 C.F.R. § 2.204(e)(1). Please submit your comments to:

David Rochlin
U.S. EPA Region 8
1595 Wynkoop Street (ENF-L)
Denver, CO 80202-1129
(303) 312-6892

Pursuant to 40 C.F.R. § 2.205(c), you are hereby advised that information you submit as part of your answers or comments may be regarded by the EPA as entitled to confidential treatment if, when it is received by the EPA, it is marked in accordance with 40 C.F.R. § 2.203(b). As required by 40 C.F.R. § 2.204(e)(6), you may assert a business confidentiality claim covering all or part of your response to these questions, as provided in 40 C.F.R. § 2.203(b). Information covered by such a claim will be disclosed by the EPA only to the extent, and by means of the procedures, set forth in section 114(c) of the Act and 40 C.F.R. Part 2. The EPA will construe the failure to furnish a confidentiality claim with your comments as a waiver of that claim, and the information may be made available to the public without further notice to you.

	A	B	C	D	E	F	G
1	Whiting			ResponseToQuestions			
2	ENCLOSURE 5						
3	REQUEST # >>>					3	
	EPA-Assigned Tank Vapor Capture System #	Field Name	Oil and Natural Gas Well Name(s)	Are the oil and natural gas well names correct? [Yes or No]	If incorrect, provide correct identification and explain. [Add or delete rows as necessary to include all associated oil and natural gas wells with common tank vapor capture systems]	Did Whiting conduct a design analysis of the tank vapor capture system & control device prior to its construction? [Yes or No]	
4			TWO SHIELDS BUTTE 14-33-6H, TWO				
5	1	Heart Butte	SHIELDS BUTTE 14-33-28H				
6	2	Heart Butte	SKUNK CREEK 12-7-8-9H3, SKUNK				
7	3	Heart Butte	CREEK 12-7-8-9H				
8	4	Moccasin Creek	SKUNK CREEK 13-18-17-16H3, SKUNK				
9	5	Moccasin Creek	CREEK 13-18-17-9H				
10	6	Moccasin Creek	MOCCASIN CREEK 13-34-28-2H,				
11	7	South Fork	MOCCASIN CREEK 16-26-27-12H,				
12	8	South Fork	MOCCASIN CREEK 16-26-27-13H3				
13	9	South Fork	MOCCASIN CREEK 14-11-2-3H3				
14	10	Sanish	SKUNK CREEK 2-8-17-14H3, SKUNK				
15	11	Sanish	CREEK 2-8-17-15H				
16	12	Sanish	SKUNK CREEK 1-8-17-15H, SKUNK				
17	13	Traux	CREEK 1-8-17-15H3, SKUNK CREEK 1-8-				
18	14	Traux	17-16H, SKUNK CREEK 1-8-17-16H3				
19	15	Traux	SKUNK CREEK 4-8-17-13H3, SKUNK				
			CREEK 4-8-17-13H, SKUNK CREEK 4-8-				
			17-14H3, SKUNK CREEK 4-8-17-14H				
			BEHR 11-34H				
			RIGEL STATE 11-16H				
			ANDERSON 44-10H				
			P THOMAS 153-98-5-10-11-8H, P				
			THOMAS 153-98-5-10-11-1H				
			P SCANLAN 153-98-16S-9-11-16H				
			P VANCE 154-97-4-17-20-13H3A, P				
			VANCE 154-97-4-17-20-14H, P VANCE				
			154-97-4-17-20-13H, P VANCE 154-97-4-				
			17-20-13H3				

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4	<p>If yes, what was the date the analysis was conducted? [Date]</p>	<p>Supply all documents supporting the design analysis of each tank vapor capture system and control device [list the filenames if provided electronically or an Attachment name identifier if hard copy]</p>	<p>Did Whiting conduct a design analysis of the tank vapor capture system & control device since its construction? [Yes or No]</p>	<p>If yes, what was the date each such analysis was conducted? [Date]</p>	<p>Supply all documents supporting each design analysis of each tank vapor capture system and control device [list the filenames if provided electronically or an Attachment name identifier if hard copy]</p>	<p>For tank vapor capture systems for which analyses are not already provided in response to Requests 4 & 5, conduct an analysis and supply all input parameters, calculations and supporting documents of the design analysis of each tank vapor capture system and control device. [list the filenames if provided electronically or an Attachment name identifier if hard copy]</p>
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3	6		7(a)		7(b)	
4	Quantify the peak total emission flow due to flash emissions attributed with liquid dump events from the pressurized vessel upstream of the storage tanks, along with working, breathing and standing emissions. [cubic feet/sec]	What is the flow capacity of the existing tank vapor capture system(s) and control device(s)? [cubic feet/sec]	Piping & instrumentation diagram of the process (wellhead(s) to control device). [list the filenames if provided electronically or an Attachment name identifier if hard copy]	If more than one storage tank is present within a tank vapor capture system, describe how oil flows between storage tanks.	Identify the gas gathering pipeline into which the tank battery location enters. [Name of P/L(s)]	What is the maximum allowable operating pressure of that pipeline? [psig]
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3	7(c)			7(d)	7(d)(i)	7(d)(i)
4	Provide a list of the wells which flow to the initial separator(s). [Well name and API No.]	How is production from those wells set to flow to the initial separator(s) (e.g. continuous pump, based on time, pressure, other parameter(s), or a combination of these)?	Can more than one well flow to an initial separator concurrent with another well or wells?	Provide a description, name and tag # ID of the initial separator(s) (e.g. single stage, dual stage, dual coil, HLP, VGR, etc.).	1st Stage - Maximum operating pressure and temperature. [psig and °F]	2nd Stage - Maximum operating pressure and temperature. [psig and °F] [If applicable]
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3	7(d)(ii)	7(d)(iii)		7(e)	7(e)(i)	7(e)(ii)
4	2nd Stage - describe where flash emissions from this stage is routed. [If applicable]	Does the final separator stage feature a device on the liquid outlet line to prevent a vortex from forming during a liquid dump event? [Yes or No]	If yes, provide a narrative description.	Is there an intermediate separation vessel(s) between the initial separator and the storage tank(s)? [Yes or No]	Intermediate separation vessel - Maximum operating pressure and temperature. [psig and °F] applicable [If	Describe where flash emissions from the intermediate separation vessel(s) are routed. [If applicable]
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3	7(f)(i)	7(f)(ii)	7(g)(i)	7(g)(ii)	7(h)(i)	7(h)(ii)	7(i)
4	Oil outlet pipe interior diameter from the separation vessel immediately upstream of the storage tank(s). [inches]	Produced water outlet pipe interior diameter from the separation vessel immediately upstream of the storage tank(s). [inches]	Oil outlet pipe orifice plate diameter and make, model, size and trim of the liquid dump valve from the separation vessel immediately upstream of the storage tank(s). [inches]	Produced water outlet pipe orifice plate diameter and make, model, size and trim of the liquid dump valve from the separation vessel immediately upstream of the storage tank(s). [inches]	Describe whether the oil is trucked or piped offsite from the storage tank(s). If neither, provide an explanation.	Describe whether the produced water is trucked or piped offsite from the storage tank(s). If neither, provide an explanation.	Is the flow of liquid from the separation vessel immediately upstream of the storage tank(s) continuous or in intermittent batches?
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3	7(j)(i)	7(j)(ii)	7(j)(iii)	7(j)(iv)		7(j)(v)		7(k)(i)	7(k)(ii)
4	If intermittent batches, what triggers a liquid dumping event?	Maximum oil volume of the separation vessel immediately upstream of the storage tank(s). [barrels]	Maximum produced water volume of the separation vessel immediately upstream of the storage tank(s). [barrels]	Average daily oil production during July 2014. Exclude any duration the well was not in operation. [bbl/day]	Peak instantaneous flow rate of oil during dump event from the separator to the storage tank(s). [gallons/minute]	Average daily produced water production during July 2014. Exclude any duration the well was not in operation. [bbl/day]	Peak instantaneous flow rate of produced water during dump event from the separator to the storage tank(s). [gallons/minute]	Maximum pump rate of the oil from the separator to the storage tank(s). [gallons/minute]	Maximum pump rate of the produced water from the separator to the storage tank(s). [gallons/minute]
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3	7(l)	7(m)(i)	7(m)(ii)	7(m)(iii)	7(m)(iv)	7(m)(v)
4	For each tank vapor capture system, provide the number of associated storage tank(s) and their volume. [# and barrels]	Pressure relief settings (psi) on the thief hatch and pressure relief valve on the storage tank(s) or tank vapor capture system. Note any changes in pressure relief settings that may have occurred, include the original and modified settings and date(s) when changed. [psi & Date]	Thief hatch gasket/seal information, including the type of gasket/seal used (e.g. rubber, Viton).	Pipe length from the storage tank(s) to the control device (if the vapor capture system collects vapor from multiple tanks, use the average pipe length for all the storage tanks to the control device). [feet]	Inner pipe diameter of the tank vapor capture system from the storage tank(s) to the control device. [inches]	Number of short radius elbows (short radius elbows have a radius equal to the pipe diameter). [#]
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3	7(m)(vi)	7(m)(vii)	7(m)(viii)	7(m)(ix)	7(m)(x)	7(m)(xi)
4	Number of long radius elbows (long radius elbows have a radius 1.5 times the pipe diameter). [#]	Number and type of valves (e.g. gate, check, globe, etc.). [# and Type]	Rated pressure loss across the combustor (combustion device) burner assembly as provided by the manufacturer of the combustion device. [psi]	Describe any low points in the tank vapor collection system piping where liquids could accumulate. Describe the frequency of draining these liquids. Describe the indicator, if any, that notifies the operator that liquids must be drained.	Set-point pressure and maximum flow capacity of any backpressure valves installed on the vapor collection system. [ounces/in ² and scf/hr]	Flame arrestor information including make, model, size and performance curve showing the pressure loss as a function of the flow rate [list the filenames if provided electronically or an Attachment name identifier if hard copy]
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3	7(m)(xii)	7(n)	7(n)(i)	7(n)(ii)	7(n)(iii)
4	Provide a narrative description of the operations and maintenance program Whiting employs to ensure emissions are minimized from the storage tank(s), tank vapor capture system(s) / thief hatch(es) / pressure relief valve(s), and the frequency of such. [list the filenames if provided electronically or an Attachment name identifier if hard copy]	Identify the type of control device used (e.g. open flare, enclosed combustion device, VRU, etc.).	The combustor manufacturer specifications showing the maximum flow rate of tank vapors under which a control efficiency of at least 98% for volatile organic compounds can be achieved. [list the filenames if provided electronically or an Attachment name identifier if hard copy] [scf/hr]	The combustor manufacturer recommended maintenance and service requirements. [list the filenames if provided electronically or an Attachment name identifier if hard copy]	Provide a narrative description of the servicing Whiting performs on the combustor(s) and the frequency of such. [list the filenames if provided electronically or an Attachment name identifier if hard copy]
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3	8(a)	8(b)	
4	Filename of extended hydrocarbon liquid analysis of a pressurized oil sample from the pressurized vessel immediately upstream of the storage tank(s). [filename]	API Gravity of oil in the storage tank(s).	Reid Vapor Pressure of oil in the storage tank(s). [psia]
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